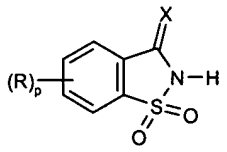
10/539625
JC17 Rec'd PCT/PTO 17 JUN 2005

IN THE CLAIMS

1. (original): A process for the synthesis of an oligonucleotide in which an oligonucleotide is assembled on a swellable solid support using the phosphoramidite approach in the presence of an activator, wherein the activator is not tetrazole or a substituted tetrazole.

2. (original): A process according to claim 1, wherein the activator is selected from the group consisting of pyridinium, imidazolinium and benzimidazolinium salts; benzotriazole and derivatives thereof; and saccharin or a saccharin derivative.

3. (original): A process according to claim 2, wherein the activator has the general chemical formula:



wherein p is 0 or an integer from 1 to 4;

R for each occurrence is a substituent, or two adjacent R groups taken together with the carbon atoms to which they are attached form a six membered saturated or unsaturated ring; and

X is O or S.

4. (original): A process according to claim 3, wherein the activator is the N-methylimidazole, pyridine or 3-methylpyridine salt of saccharin.

5. (currently amended): A process according to ~~any preceding~~ claim 1, wherein the swellable support comprises functionalised polystyrene, partially hydrolysed polyvinylacetate or poly(acrylamide).

6. (currently amended): A process according to ~~any preceding~~ claim 1, wherein the process comprises coupling a nucleoside phosphoramidite with a nucleoside or oligonucleotide comprising a free hydroxy group.

7. (original): A process according to claim 6, wherein the nucleoside phosphoramidite is a deoxyribonucleside-3'-phosphoramidite or ribonucleside-3'-phosphoramidite.

8. (currently amended): A process according to claim 6 ~~or 7~~, wherein the nucleoside or oligonucleotide comprising a free hydroxy group comprises a free 5'-hydroxy group.

9. (currently amended): A process according to ~~any one of claims 6 to 8~~ claim 6, wherein the nucleoside or oligonucleotide comprising a free hydroxy group is attached to the solid support by a cleavable linker.

10. (currently amended): A process according to ~~any preceding~~ claim 1, wherein the process employs a solvent which swells the solid support.

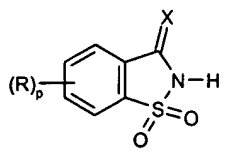
11. (original): A process according to claim 10, wherein the solvent is acetonitrile, dimethylformamide, N-methylpyrrolidinone, dichloromethane, tetrahydrofuran or pyridine.

12. (currently amended): A process according to ~~any preceding~~ claim 1, wherein the assembled oligonucleotide is cleaved from the solid support.

13. (new): A process for the synthesis of an oligonucleotide which comprises coupling a nucleoside phosphoramidite with a nucleoside or oligonucleotide comprising a free hydroxy group in the presence of an activator, wherein:

a) the nucleoside or nucleotide comprising a free hydroxy group is attached to a swellable solid support by a cleavable linker, said swellable support being selected from the group consisting of functionalized polystyrene, partially hydrolyzed polyvinylacetate and poly(acrylamide);

b) said activator has the general chemical formula:



wherein p is 0 or an integer from 1 to 4;

R for each occurrence is a substituent, or two adjacent R groups taken together with the carbon atoms to which they are attached form a six membered saturated or unsaturated ring; and

X is O or S;

the employing a solvent which swells the solid support selected from the group consisting of acetonitrile, dimethylformamide, N-methylpyrrolidinone, dichloromethane, tetrahydrofuran and pyridine.

14. (new): A process according to claim 13, wherein the activator is the N-methylimidazole, pyridine or 3-methylpyridine salt of saccharin.